

**COMMISSIONERATE OF COLLEGIATE EDUCATION,
TELANGANA: HYDERABAD
PROFORMA FOR GREEN AUDIT**

College Profile

Name of the College: **GOVERNMENT DEGREE COLLEGE MULUGU**

Address: PREM NAGAR, MULUGU

Contact Info: 9963356835

Campus Area: 13.3 ACRES

Built-up Area: 67507 SQ. FTS

Is the building has ventilators for natural air flow in all rooms: Yes/No

The Student and faculty strength of the college:

Strength	Male	Female	Total
No of students	174	117	291
No of Teaching staff	6	2	8
No of Non-Teaching staff	3	3	6

Physical Structure

The available land of the college: 13.3 ACRES

The built-up area of the college: 67507 SQ. FTS

No. of Class Rooms	18
No. of Laboratories	7
No. of Conference halls	02
Library Halls	02
Auditorium	01

Canteen	01
Any other(please specify)	

Objectives:	<p>Environmental risk assessment Waste minimization and environmental pollution control plans. Say NO to Plastic or minimize the use.</p> <p>The optimal utilization of energy, water and other natural resources. Recycling programs and product life considerations.</p> <p>Emergency plans and procedures.</p>
Prepared by:	<p>N.R.C.Srikanth (Asst.pro.of English) Dr.D.Sammaiah(Asst.pro.of English) Dr.B.Yugandhar(Librarian) Dr.M.Anil kumar(Lect.Zoology) Sri J.Shanker (Lect.Maths)</p>
Approved by:	Smt.K.Rajanilatha(PRINCIPAL)
Remarks:	Nil

FORMS AND SUPPORT MATERIAL

Questionnaire document ref. name/no.:	
Checklist for Environmental Audit document ref. name/no.	
Additional forms and support material:	

Background:

- Government Degree College Mulugu is established in 1999 situated in the economically poor, rural agrarian surroundings. It is 2 kms away from the District head quarters.
- It is 10kms away from ancient historical and UNESCO recognized RAMAPPA TEMPLE of 13th century AD.
- Government Degree College Mulugu is affiliated to Kakatiya University, Warangal and it was admitted by UGC under (2f)&(12B) in 2010.

VISION:

To provide quality and value added higher education with ethical values and thereby to create competent human resources particularly in rural area.

Mission:

To promote quality higher education with ethics and social responsibility

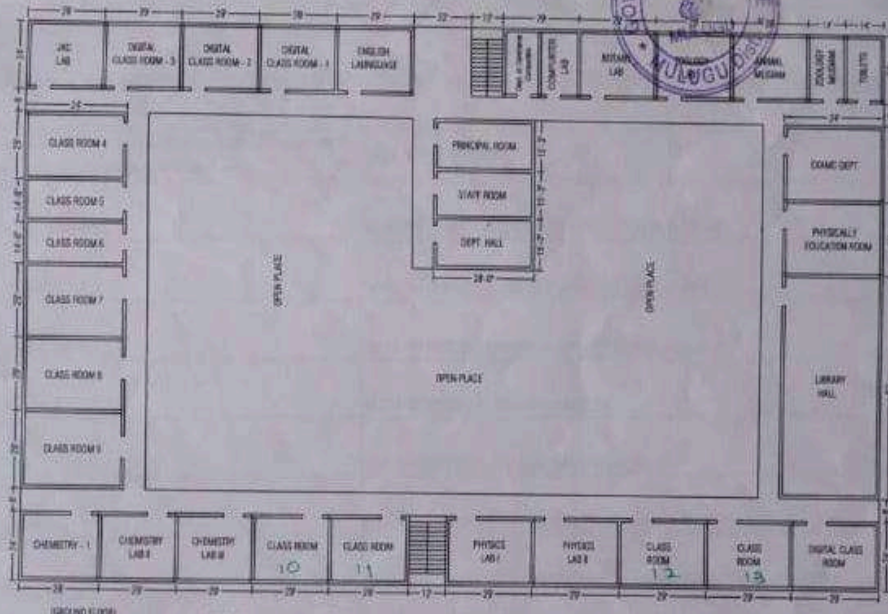
To enhance access to higher education ensuring equity particularly to the weaker sections of the society especially rural women.

The institution strives every hour for the uplift and skill enhancement of the students in all spheres of higher education.

Construction Plan:

The college has an impressive building with ground floor and first floor. It has 31 rooms to accommodate the Principal's office, Library, Reading room, Digital class rooms, Conference rooms, English language, Science and Commerce Laboratories, Gym centre, Open Auditorium and spacious play ground. There is 13.30 Acres of land surrounding the college for various outdoor games.

PLAN SHOWING THE GOVT. DEGREE COLLEGE, MULUGU DISTRICT



TOTAL AREA : 67507.00 SQ
 OR : 6271.00 SQ
 F.F. PLINTH AREA : 6768.00 SQ
 OR : 628.76 SQ



(Signature)
Principi
 Govt. Degree College
 Mulugu, Dist. N.T.

(Signature)
CHIRVANCHA NARENDRA CHARI
 Government Licenced Surveyor
 Licence No. : 230

Environmental practices and future plans:

Different clubs such as Eco Club conducts programmes on Clean and Green, Say NO to Plastic which is the best practice of the college and also the Mulugu District. GDC Mulugu plans to set Solar panel to use the sunlight as a source of energy to generate direct current electricity in the nearby coming time.

General Objectives (can be slightly modified according to need of an Institution)

- Say No to Plastic in college premises.
- Environmental risk assessment including compliance to regulations, soil, Water, solid and E-wastes, emissions, hazardous products & noise pollution.
- Waste minimization and environmental pollution control plans.
- The optimal utilization of energy, water and other natural resources.
- Recycling programs and product life cycle considerations.
- Emergency response plans and procedures.

Protocols used for Environmental Audit

Internal Audit Team Structure: (7+2=9): It comprises Principal as Chairman, IQAC coordinator as Vice-Chairman, Principal of the neighboring college as special invitee, one coordinator from faculty of Botany/Zoology/ Environmental Science and three other members from any faculty interested in environment related activities. College can include two extra invitee members from Forest Department / Pollution control board / Health Department/ etc.

Questionnaire: this is used for acquiring basic information related to different categories to be covered in an institution.

Check List: This is used for providing a detailed listing of all issues to be covered in an institution.

Photographs: A picture speaks 1000 words. Use photographs to support findings and to highlight good practices with geo-tagging.

Comprehensive Methods: The detailed methodology is required for environmental audit and it must be conducted using comprehensive

protocols and fixed procedures to ensure collection and documentation of the required data and verification of facts based on the information provided.

Relevant Measures and Standards: The standard measures could be adjusted to be relevant to the organization or activity being audited.

Written Reports: Reports should contain factual observations, reasoning and the documentation of the processes. The Clarity and accuracy should be

maintained while presenting the findings with the support of valid and documented evidence.

Evidence verification: The concept of evidence and verification of environmental deficiencies is one of the key elements in an environmental audit. Initially the Internal audit team must verify all procedures, collected data and information through direct field inspection.

Certification and Grading: The External audit team will assess and evaluate the internal audit report and after thorough verification certificate along with grade will be issued.

PROCEDURE		
Procedure	Description	Responsibility
Annual plan	The environmental audit report is prepared by College Authorities each year and it ensures that the entire environmental management system is examined, must specify when the audit was carried out and those responsible for carrying it out.	Internal Environmental audit team/ coordinator
Preparation	The typical questionnaire and check-lists are developed for the area to be audited before the actual individual audits are carried out. It is done using established procedures, objectives and action plans. They can be used to measure results in each area. The staff and in charges of the area to be audited should be informed well in advance about when the audit would be done and what it covers.	Internal audit team
Internal Audit	Based on the questionnaire and checklists, the audit is carried out in the form of interviews / physical visit about - and observations of the actual state of affairs. The Team suggests further changes and correction as and when required.	Internal Audit team

Wrap-up meeting	<p>An audit report is prepared which is examined together with the in-charges responsible for the each area; minor areas are taken care of immediately, while a conclusion for the audit as a whole is written down.</p> <p>Correction reports are examined and corrective action is agreed upon. The internal audit team and the College Management / Principal sign the reports made. Then the reports must be submitted to the CC Office at Hyderabad.</p>	Internal audit team
Follow-up	<p>When deadlines for corrective action are reached, the Coordinator responsible for the area audited is contacted and the environmental manager checks the corrective action carried out. If corrective action is effective, the case is closed. If not, a new report is prepared.</p>	Coordinator
Reporting	<p>A comprehensive joint report is prepared on the basis of all the internal environmental audits of the college. This report forms the basis for certification and grading by the external audit team and it holds the authority to review the entire report.</p>	External Audit team/ Principal/ IQAC coordinator

AUDITING FOR WATER MANAGEMENT

1. List out uses of water in your college.

1. Drinking
2. Cleaning
3. Toilets
4. Laboratories
5. Garden

6. Canteen

7. Hostel

2. What are the sources of water in your college?

ANS: Ground water

3. How many wells are there in your college?

ANS: There are 1 bore well.

4. No. of motors used for pumping water from each well?

ANS: TWO motors are being used for each bore well

5. What is the total horsepower of each motor?

ANS: 1 HP

6. What is the depth of each well?

ANS: 450 feet

7. What is the present depth of water in each well?

ANS: 350 feet approximately.

8. How does your college store water?

ANS: Water from the bore well is stored in 8 overhead water tanks.

9. Quantity of water stored in your overhead water tank? (In liters)

ANS: 8000 Liter capacity (8X1000) Liter

10. Quantity of water pumped every day? (In liters)

ANS: 4000 Liters

11. If there is water wastage, specify why.

ANS: Some quantity of water comes from RO water plant during the filtration process. That water is used for the garden.

12. How can the wastage be prevented / stopped?

ANS: Regular maintenance of RO water plants could minimize the waste water output from the plant.

13. Locate the point of entry of water and point of exit of waste water in your College.

ANS: Point of entry – Nil

Point of Exit – RO plant to Garden

14. Where does wastewater come from?

ANS: RO water plant

Airconditioners

15. Where does the waste water go?

ANS: To the garden.

16. What are the uses of waste water in your college?

ANS: The waste water from RO plant and Air conditioners is used for watering the garden.

The waste water from labs and canteen enters the drainage.

17. What happens to the water used in your labs? Whether it gets mixed with ground water?

ANS: The used water from labs directly enters into drainage and that does not get mixed with ground water.

18. Is there any treatment for the lab water?

ANS: No. We have no waste water treatment plant or special equipment for treating waste water from laboratories.

19. Whether green chemistry methods are practiced in your labs?

ANS: Yes.

20. Write down four ways that could reduce the amount of water used in your college.

ANS:

- a) Regular **checkup toilets** and labs for leaky taps and **fixing** them immediately.
- b) Installation of **Aerators** which reduce the amount of water flowing from the tap by up to 50%, while maintaining the pressure.
- c) Urinal upgrades: fitting efficient **automatic flush controls** on urinals to turn on the water control when it is required.
- d) Constituting **a water team** with staff and students to monitor the wastage of water in the college, canteen and hostel.
- e) Conducting **awareness programs** to students and staff on water conservation in the college.

21. Record water use from the college water meter for six months.

ANS: Not Available

22. Bimonthly water charges paid to water connections if any

ANS: Nil.

23. No. of water coolers. Amount of water used per day? (in liters)

ANS: Nil

24. No. of water taps. Amount of water used per day?

ANS: 44 taps. Approximately 4000 Liter water is being used per day.

25. No. of bath rooms in staff rooms, common, hostels. Amount of water used per day?

ANS: Total 2 bathrooms in all staff rooms, common, hostels. Amount of water used per day is 1000 Liters approximately.

26. No. of toilets, urinals. Amount of water used per day?

ANS: Total 38 toilet, urinals. The amount of water used per day is approximately 1000 Liters.

27. No. of water taps in the canteen. Amount of water used per day?

ANS: Nil

28. Amount of water used per day for garden use.

ANS: 2000 liters of water from RO plant and AIR CONDITIONERS used for garden.

29. No. of water taps in laboratories. Amount of water used per day in each lab?

ANS: Total 11 water taps are there in the labs. Daily 1000 liters of water used in the labs.

30. Total use of water in each hostel?

ANS: Nil.

31. At the end of the period, compile a table to show how many liters of water have been used in the college for each purpose.

ANS:

S. No.	Item	Quantity of water used per day in liters
1	Toilets	2000
2	Labs	1000
3	R.O. plant	2000
	Total	5000

32. Is there any water used for agricultural purposes?

ANS: No.

33. Does your college harvest rain water?

ANS: Yes

34. If yes, how many rain water harvesting units are there?
(Approx. amount)

ANS: There are 2 rain water harvesting units.

35. How many of the taps are leaky? Amount of water lost per day?

ANS: Nil.

36. Are there signs reminding people to turn off the water? Yes / No

ANS: Yes

37. Is there any waterless toilets?

ANS: No.

38. How many water fountains are there?

ANS: Nil

39. How many water fountains are leaky?

ANS: Nil

40. Is drip irrigation used to water plants outside? YES/NO

ANS: No.

41. How often is the garden watered?

ANS: Daily

42. Quantity of water used to watering the ground?

ANS: 2000 Liters.

43. Quantity of water used for bus cleaning? (Liters per day)

ANS: Nil. (There is no college bus)

44. Amount of water for other uses? (Items not mentioned above)

ANS: Nil

45. Area of the college land without tree/building canopy.

ANS: 3 Acres land

46. Is there any water management plan in the college?

ANS: Yes.

47. Are there any water saving techniques followed in your college?
What are they?

ANS:

- Regular checkup of taps for leakages and repairing the damaged taps.
- Regular maintenance of RO Plant.
- Putting signs to remind the students and staff to turn off the water.

48. Please share Some IDEA for how your college could save more water.

ANS:

- Installation of Aerators to taps that save around 50% of water.
- Automatic flush controls in urinals.
- Conducting awareness programs for students and staff.

AUDITING FOR ENERGY MANAGEMENT

1. List ways that you use energy in your college. (Electricity, electric stove, kettle, microwave, LPG, firewood, Petrol, diesel and others).

Ans: Electricity.

2. Electricity bill amount for the last year

Ans: Rs. 136210 /- Feb-20 to Jan-21

3. Amount paid for LPG cylinders for last one year.

Ans: Nil

4. Weight of firewood used per month and amount of money spent? Also mention the amount spent for petrol/diesel/ others for generators?

Ans: Nil

5. Are there any energy saving methods employed in your college? If yes, please specify.

Ans: Yes, old tungsten bulbs are replaced by LED bulbs.

6. How much money does your college spend on energy such as electricity, gas, firewood, etc. in a month?

Ans: ₹14744.00 /-

7. How many CFL bulbs has your college installed? Mention use (Hours used/day for how many days in a month)

Ans: 63 LED bulbs, 23 days in a month and used 6 hours per day

8. Energy used by each bulb per month? (For example- 60 watt bulb x 4 hours x number of bulbs = Kwh).

Ans: 9000kw

9. How many LED bulbs are used in your college? Mention the use (Hours used/day for how many days in a month) Ans: 63, 6hrs/day, 23 days/month

10. Energy used by each bulb per month? (kWh).

Ans: 360kwh

11. How many incandescent (tungsten) bulbs have your college installed? Mentions use (Hours used/day for how many days in a month)

Ans: 10 tungsten bulbs, 4hrs/day, 20 days/month

12. Energy used by each bulb per month? (kWh).

Ans: 240 kWh

13. How many fans are installed in your college? Mention use (Hours used/day for how many days in a month)

Ans: 164, 3hrs/day, 22 days/month

14. Energy used by each fan per month? (kWh).

Ans: 66 kWh/month

15. How many air conditioners are installed in your college? Mention use (Hours used/day, for how many days in a month)

Ans: 6, 4hrs/day, 25 days/month

16. Energy used by each air conditioner per month? (kWh). Ans:
1000 kWh/month
17. How many electrical equipment including weighing balance are installed your college? Mention the use (Hours used/day for how many days in a month)
Ans: Nil
18. Energy used by each electrical equipment per month? (kWh). Ans:
Nil
19. How many computers are there in your college? Mention the use (Hours used/day for how many days in a month)
Ans: 100 computers, $100 * 4\text{hrs} * 22 \text{ days/month} = 8800 \text{ kWh}$
20. Energy used by each computer per month? (kWh). Ans:
88 kWh/month
21. How many photocopiers are installed by your college? Mention use (Hours used/day for how many days in a month).
Ans: 2, 4hr/day, 20 days/month = 160kwh
22. How many cooling apparatus are in installed in your college? Mention use (Hours used/day for how many days in a month)
Ans: A separate sheet is attached
23. Energy used by each cooling apparatus per month? (kWh) Mention use (Hours used/day for how many days in a month)
Ans: 460kwh
24. Energy used by each photocopier per month? (Kwh) Mention the use (Hours used/day for how many days in a month) how many inverters your college installed? Mentions use (Hours used/day for how many days in a month)
Ans: 2 inverters installed $460\text{v} * 4\text{hours} * 20\text{days/month} = 36800\text{kwh}$
25. Energy used by each inverter per month? (kWh). Ans: 18400kwh
26. How many electrical equipment are used in different labs of your college? Mention the use (Hours used/day for how many days in a month): Ans: Nil
27. Energy used by each equipment per month? (kWh) Ans: Nil
28. How many heaters are used in the canteen of your college? Mention the use (Hours used/day for how many days in a month)
Ans: Nil
29. Energy used by each heater per month? (kWh)
30. Ans: Nil
31. No of street lights in your college?

Ans: $4 \times 6 \text{hrs} \times 25 \text{days/month} = 600 \text{kwh}$

32. Energy used by each street light per month? (kWh) Ans: 150kwh

33. No of TV in your college and hostels?

Ans: $1 \times 4 \text{hrs} \times 20 \text{days/month} = 80 \text{(kWh)}$

34. Energy used by each TV per month? (kWh)

Ans: 80(kWh)

35. Any other item that uses energy (Please write the energy used per month)
Mention the use (Hours used/day for how many days in a month)

Ans: Nil

36. Are any alternative energy sources/nonconventional energy sources employed / installed in your college? (Photovoltaic cells for solar energy, windmill, energy efficient stoves, etc..) Specify.

Ans: Nil

37. Do you run “switch off” drills at college?

Ans: Yes

38. Are your computers and other equipment put on power-saving mode? Ans:
Yes

39. Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby mode most of the time? If yes, how many hours?

Ans: Yes, 6 hours standby mode.

40. What are the energy conservation methods adapted by your college? Ans:
Installing LED bulbs, Use energy efficient appliances, drive less, walk more, switch off appliances when not in use, Plant shady landscaping, using energy efficient windows, Using bicycles, Get energy audit done every year.

41. How many boards are displayed for saving energy awareness? Ans: 3

42. How much ash is collected after burning firewood per day in the Canteen?

Ans: Nil

43. Write a note on the methods/practices/adaptations by which you can reduce the energy use in your college campus in future.

Ans: a)Employment of solar panels and other renewable energy sources. b)Conduct more save energy awareness programs for students and staff.

c)Replace computers with LED monitors. d) More energy efficient fans should be replaced. e) Observe a power saving day every year. f) Automatic power switch off systems may be introduced.

AUDITING FOR WASTE MANAGEMENT

What is the total strength of students, teachers and Non-teaching staff in your College?

Strength	Male	Female	Total
No of students	174	117	291
No of Teaching staff	6	2	8
No of Non-Teaching staff	3	3	6

No. of Students; No. of Teachers; No. Non-teaching staff; Gents - Ladies
Total

Which of the following are available in your College?

Give area occupied=13.3 Acres

Garden area=05 Acres

Garbage dump (number)=01

Playground area=02 Acres

Laboratory=07

Kitchen=00

Canteen=01

Toilets (number)=38

Car/scooter shed area=200 yards

Number of class rooms=34

Office rooms and others (specify)=04

Which of the following are found near your college? Mark the level of disturbance it creates for the college in a scale of 1 to 9.

Municipal dump yard= Nil

Garbage heap= Nil

Public convenience Sewer line

Stagnant water= Nil

Open drainage Industry – (Mention the type) = Nil

Bus / Railway station Market / shopping complex / public halls= Nil

WASTE

Does your college generate any waste? If so, what are they? How much quantity?

Number or weight E-waste Hazardous waste (toxic) =4 0

Solid waste=

Dry leaves

Canteen waste

Liquid waste

Glass

Unused equipment

Medical waste if any

Napkins Others (Specify)

Is there any waste treatment system in the college?

Is there any treatment for toilet/urinal/sanitary napkin waste?

1 What is the approximate quantity of waste generated per day?
(in Kilograms) Office Laboratories Canteen/kitchen

2 Why waste is a problem?

3 Whether waste is polluting ground/surface water?

How? 4 Whether waste is polluting the air of the college?

How? 5 How is the waste generated in the college
managed?

Methods 1 Composting 2 Recycling 3 Reusing 4 Others (specify)

6 How many separate boxes do you think you would need to put into a
classroom to start a waste segregation and recycling campaign?

What should be the use for each box? (Develop a Colour code with
reasons) 7 Do you use recycled paper in College?

8 Is there any waste wealth program practiced in the college? Approx. Bio degradable
Non-Bio degradable Hazardous Others < 1 kg. 2 - 10 kg. > 10 kg.

Approx. Bio degradable Non-Bio degradable Hazardous Others < 1 kg. 2 - 10
kg. > 10 kg.

Approx. Bio degradable Non-Bio degradable Hazardous Others < 1 kg. 2 - 10
kg. > 10 kg.

9 How would you spread the message of recycling to others in
the community? Have you taken any initiatives? If yes, please
specify.

Nil

10 Can you achieve zero garbage in your college? (Reduce, Recycle,
Reuse, Refuse) If yes, how?

Ans: Yes, dry leaves and other garbage used in vermicompost.

AUDITING FOR GREEN CAMPUS MANAGEMENT

1. Is there a garden in your college? Area?

No

2. Do students spend time in the garden?

No

3. List the plants in the garden, with approx. number of each species.

Nil

4. Suggest plants for your campus. (Trees, vegetables, herbs, etc.)

S.No	BotanicalName	Trees/Vegetables/Herbs	Family
1	<i>Rauwolfia serpentine</i>	herb	Apocyanaceae
2	<i>Withaniasomnifera</i>	herb	Solanaceae
3	<i>Centella asiatica</i>	herb	Apiaceae
4	<i>Asclepia curassavica</i>	herb	Asclepidiaceae
5	<i>Mitragyna parviflora</i>	Tree	Rubiaceae
6	<i>Dichrostachys cinerea</i>	tree	Mimosoideae
7	<i>Bombax ceiba</i>	Tree	Bombacaceae
8	<i>Terminaliachebula</i>	Tree	Combretaceae
9	<i>Terminaliabellerica</i>	Tree	Combretaceae
10	<i>Givotia moluccana</i>	Tree	Euphorbiaceae
11	<i>Anacardium occidentale</i>	Tree	Anacardiaceae
12	<i>Annona muricata</i>	Tree	Anacardiaceae
13	<i>Annona cherimola</i>	Tree	Annonaceae
14	<i>Artabotrys hexapetala</i>	Climber	Annonaceae
15	<i>Rosmarinus officinalis</i>	herb	Lamiaceae
16	<i>Utricularia gibba</i>	herb	Lentibulariaceae

5. List the species planted by the students, with numbers.

Sl no	Name of Plant	Habit	Family	Number of plants
1	<i>Psidium guajava</i>	Tree	Myrtaceae	14
2	<i>Emblica officinalis</i>	Tree	Euphorbiaceae	10
3	<i>Citrus aurantium</i>	Tree	Rutaceae	14
4	<i>Phyllanthus niruri</i>	Herb	Euphorbiaceae	9
5	<i>Gliricidia sepium</i>	Tree	fabaceae	16
6	<i>Ceiba pentandra</i>	Tree	Bombacaceae	13

7	<i>Aegle marmelos</i>	Tree	Rutaceae	2
8	<i>Aloe vera</i>	Herb	Liliaceae	5
9	<i>Ocimum tenuiflorum</i>	Herb	Lamiaceae	6
10	<i>Ixora coccinea</i>	Herb	Rubiaceae	10
11	<i>Annona squamosa</i>	Tree	Annonaceae	7
12	<i>Punica granatum</i>	Tree	Punicaceae	11
13	<i>Ficus religiosa</i>	Tree	Moraceae	13
14	<i>Azadirachta indica</i>	Tree	Meliaceae	18
15	<i>Cymbopogon citratus</i>	Herb	Poaceae	8
16	<i>Terminalia arjuna</i>	Tree	Combretaceae	18
17	<i>Tabebuia aurea</i>	Tree	Bignoniaceae	12
18	<i>Achras sapota</i>	Tree	Sapotaceae	10
19	<i>Mangifera indica</i>	Tree	Anacardiaceae	4
20	<i>Gmelina arborea</i>	Tree	Verbenaceae	4

6. Whether you have displayed scientific names of the trees in the campus?

Yes, Earlier the Scientific Names on the Nameplates were displayed .But from June2021 QR codes were assigned to the plants present in the campus





Department of Botany, GDC Mulugu.



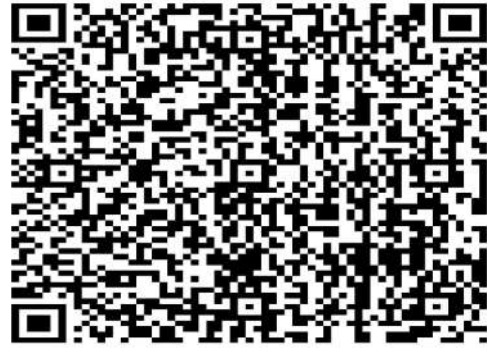
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Department of Botany, GDC Mulugu.

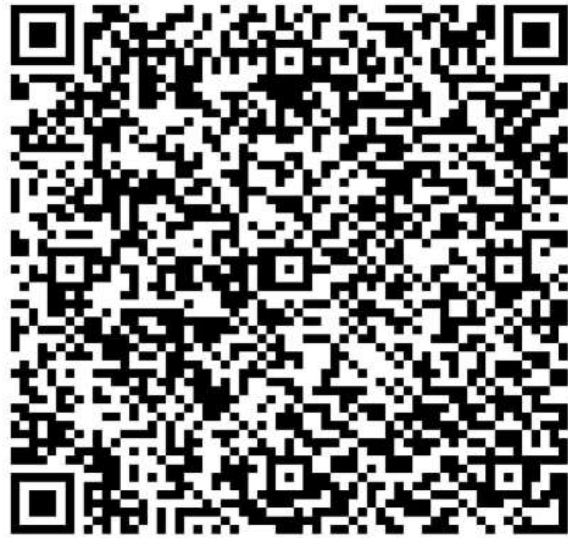


Department of Botany, GDC Mulugu.















7. Is there any plantation in your campus? If yes specify area and type of plantation.

Plantation around campus has been done in College entrance area, in front of Department of Botany.

8. Is there any vegetable garden in your college? If yes how much area? No

9. Is there any medicinal garden in your college? If yes how much area?

No

10. What are the vegetables cultivated in your vegetable garden? (Mention the quantity of harvest in each season)

Nil

11. Who is in charge of gardens in your college? Dr.D.

Sammaiah

12. Are you using any type of recycled water in your garden? No

13. List the name and quantity of pesticides and fertilizer used in your gardens?

Not using Whether you are doing organic farming in your college? How?

No

14. Do you have any composting pit in your college? If yes, what are you doing with the compost generated?

Yes

15. What do you do with the vegetables harvested? Do you have any student market?

No

16. Give the number and names of the medicinal plants in your college campus.

No

17. Any threatened plant species planted/conserved? No

18. Is there a nature club in your college? If yes what are their activities? Yes, eco club conducted clean and green programme and haritha haram programme.

19. Is there any arboretum in your college? If yes details of the trees planted.

No

20. Is there any fruit yielding plants in your college? If yes details of the trees planted.

No. of Fruit Yielding plants in the college campus

SL.N o.	BotanicalName	vernacular /commonnam e	Family	No. of Fruit yielding plants
1	<i>Mangifera indica</i>	mamidi	Anacardiaceae	2
2	<i>Annona reticulata</i>	ramaphalamu	Annonaceae	5
3	<i>Annona squamosa</i>	sitaphalamu	Annonaceae	5
4	<i>Phoenix dactylifera</i>	eetha	Arecaceae	3
5	<i>Carica papaya</i>	boppai	Caricaceae	3
6	<i>Tamarindus indica</i>	chinta	Caesalpinaceae	10
7	<i>Punica granatum</i>	danimma	Punicaceae	5

8	<i>Artocarpus integrifolia</i>	panasa	Moraceae	5
9	<i>Musa paradisiaca</i>	arati	Musaceae	2
10	<i>Achras sapota</i>	sapota	Sapotaceae	2
11	<i>Psidium guajava</i>	jama	Myrtaceae	10
12	<i>Phyllanthus emblica</i>	usiri	Euphorbiaceae	20
13	<i>Casuarina equisetata</i>	sarugudu	Casuarinaceae	10
14	<i>Zizyphus jujube</i>	regu	Rhamnaceae	10
15	<i>Ficus carica</i>	anjeer	Moraceae	08
16	<i>Ficus glomerata</i>	medi	Moraceae	08
17	<i>Terminalia catappa</i>	badam	Combretaceae	05
18	<i>Cissus quadrangularis</i>	nalleru	Vitaceae	05
19	<i>Syzygium cumini</i>	neredu	Myrtaceae	08
20	<i>Pithecellobium dulce</i>	seema chinta	Mimosaceae	05
21	<i>Sterculia foetida</i>	adavi badam	Sterculiaceae	02
22	<i>Citrus limon</i>	Neemma	Rutaceae	02

1. Say to No Plastic programme

2. International Water Day

3. Earth Day

21. What is the involvement of students in the green cover maintenance? Plantation Programme and Haritha haram Is there any groves in your college? If yes details of the trees planted. No

22. Is there any irrigation system in your college? No

23. What is the type of vegetation in the surrounding area of the college?

Paddy, Cotton, Maize, Chilli, and etc.

24. What are the nature awareness programmes conducted in the campus?

25.









26. What is the total area of the campus under tree cover? Or under tree canopy?
40%

27. Share your IDEAS for further improvement of green cover.

1. Every student should plant at least 2 plants.
2. Protect the planted plants should be arranged around tree guards.
3. Social responsibility should be taken in the preservation of plants.

AUDITING FOR CARBON FOOTPRINT

1. What is the total strength of students and teachers in your College?

No. of Students **291** No. of Teachers **8** of Non-teaching staff **6**

Gents Ladies Total

2. Total Number of vehicles used by the stakeholders of the college. (per day) **8**
3. No. of cycles used **50**
4. No. of two wheelers used (average distance travelled and quantity of fuel and amount used per day) **5**
5. No. of cars used (average distance travelled and quantity of fuel and amount used per day) **2**
6. No. persons using common (public) transportation (average distance travelled and quantity of fuel and amount used per day) **Nil**
7. No. of persons using college conveyance by the students, non-teaching staff and teachers (average distance travelled and quantity of fuel and amount used per day)
8. Number of parent-teacher meetings in a year? Parents turned up (approx.) **2**
9. Number of visitors with vehicles per day? **10**
10. Number of generators used per day (hours). Give the amount of fuel used per day. **Nil**
11. Number of LPG cylinders used in the canteen (Give the amount of fuel used per day and amount spent).
Nil

12. Quantity of kerosene used in the canteen/labs (Give the amount of fuel used per day and amount spent). **Nil**
13. Amount of taxi/auto charges paid and the amount of fuel used per month for the transportation of vegetables and other materials to canteen. **Nil**
14. Amount of taxi/auto charges paid per month for the transportation of office goods to the college. **Nil**
15. Average amount of taxi/auto charges paid per month by the stakeholders of the college. **Nil**
16. Use of any other fossil fuels in the college (Give the amount of fuel used per day and amount spent). **Nil**
17. Suggest the methods to reduce the quantity of use of fuel used by the stakeholders/students/teachers/non-teaching staff of the college.

Don't use bikes, use more bicycles.

18. Are the Rooms in Campus are Well Ventilated? Yes/No **YES**
19. Window Floor ratio of the Rooms Good/Not Enough **GOOD**

Carbon Footprint - Sample Report

- Petrol used by two wheelers/day—229 L
- (Per person to and fro 40 Kms=1L) Fuel used by four wheelers (52 Persons) - 104 L
- (Per person to and fro 40 Kms=2L) Fuel for persons (total 2314 persons) travelling by common
- Transportation =184 L (4L x 50 persons)

Total fossil fuel use is 517 L / day

Total fuel cost per day for transportation =Rs. 36190/- (517 L x Rs 70

Cost of stakeholder transportation per month (Rs.36190x22 days)- Rs.796180

1. Water management

SL NO	PARAMETERS	Response	Remarks
1	Source of water	Bore well	
2	No. of Wells	1	
3	No. of motors used	2	
4	Horse power – Motor	1HP	
5	Depth of well –Total	450	
6	Water level	350	
7	Number of water tanks	8	
8	Capacity of tank	8000Lts	
9	Quantity of water pumped every day	4000 Lts	
10	Any water wastage/why?	No	
11	Water usage for gardening	2000	
12	Waste water sources	Nil	
13	Use of waste water	Watering plants	
14	Faith of waste water from labs	Drainage	
15	Whether waste water from labs mixed with ground water	No	
16	Any treatment for lab water	Nil	
17	Whether any green chemistry method practiced in labs	Yes	
18	No. of water coolers	Nil	
19	Rain water harvest available?	Yes	
20	No. of units and amount of water harvested	2	
21	Any leaky taps	Nil	
22	Amount of water lost per day	Nil	
23	Any water management plan used?	Yes	

24	Any water saving techniques followed?	Yes	
----	---------------------------------------	-----	--

25	Are there any signs reminding peoples to turn off the water?	Yes	
----	--	-----	--

Results of water quality

Parameters	Bore Well water	Municipal Tap Water	Standard value (BIS)
Dissolved Oxygen (mg/l)	2Mg/L		6-8
Acidity (mg/l)			200
Alkalinity (mg/l)	225		200
Chloride (mg/l)	125		250
Hardness (Total)	250		200
Conductivity (μ s)	800		
Ph.	7.5		6.5-8.5
Total Dissolved Solids (ppm)	550		500
Salinity (ppt)	15%		
Total coliform			0
Fecal coliform			0

**Water Quality analysis (Biological) report of college – II
(with Photographic evidence)**

□ College does not have Ecological Pond.

S.No	Parameter/ WHO permissible level	Zooplankton (No of Samples/Sites)	Methodology
1	Protozoan (Ciliates)	NIL	
2	Rotifers	NIL	
3	Ostracods	NIL	
4	Insect Larvae	NIL	
5	Water Fleas	NIL	
6	Bivalves	NIL	
7	Snails	NIL	
8	Mussels	NIL	
9	Any Other (Specify)	NIL	

Water Quality analysis (Biological) report of college – II
(with Photographic evidence): NIL

1. ENERGY AUDIT

Room No. / name		Electrical device/ items	Number		Power		usage time (hr/day)		
Sl. No	Electrical appliances/ins truments	Numbe r	Power (W)/ unit	Tot al power(W)	kW	Operatio n /day	kW/hr	No.of days in month	Total consump tion per month
1	CFL	00	00	00	00	00	00	00	00
2	TUBE	114	35	3990	4.00	3	12.00	22	264.4
4	LED BULB	63	9	567	0.56 7 5	3	1.75	20	34.02
5	LED TUBE	00	00	00	00	00	00	00	00
6	PROJECTOR	10	280	2800	2.8	1	2.8	05	14.00
7	SPEAKERS	07	100	700	0.7	1	0.7	04	2.8
8	FAN	129 (worki ng- 70)	60	7740	7.74	05	38.7	20	774
9	COMPUTER	75(wo rking- 25)	250	6250	6.25	3	56.25	20	375
10	LAPTOPS	04	50	200	0.2	1	0.2	05	1.00
11	PRINTERS	06	60	360	0.36	1	0.36	15	5.4
12	PHOTOSTAT MACHINE	02	650	1300	1.3	1	1.3	10	13
13	SCANNER	04	50	200	0.2	1	0.2	10	2.00
14	UPS	09	1000	2000	2.0	10	20	20	400

Conclusions & Recommendations from Energy Audit:

- The total energy utilization of the college for different purposes is approximately 1119.05 kwh/month. Electricity charges per month are Rs.12000/month (approximately).
- Energy saving through the replacement of Fluorescent Tubes, Conventional ceiling fans by smart appliances or power save appliances be a good energy management system for the college.
- Awareness programmes for the stake holders to save energy may also increase sustainability in the utilization of various energy source.
- Lighting in the library should be predominately LEDs and energy saving bulbs.
-
- Solar energy of non-conventional category will be a good energy management system for the college.
- The College should improve its monitoring and reporting of energy usage and provide information to campus users. In order to do this the College must install meters for campus buildings.

2. Waste management

Approximate quantity of waste generated per day (in kg)

Office				
Approx.	Biodegradable	Non -Biodegradable	Hazardous	Others
<1Kg	YES	NO	NO	Nil
2-10Kg				
>10Kg				

Laboratories				
Approx.	Biodegradable	Non - Biodegradable	Hazardous	Others
<1Kg	Yes	No	Nil	No
2-10Kg				
>10Kg				

Canteen/kitchen				
Approx.	Biodegradable	Non - biodegradable	Hazardous	Others
<1Kg	Nil	Nil	Nil	Nil
2-10Kg				
>10Kg				

How the waste generated in the college is managed?

A)Composting/ Vermicomposting	Yes/ No	Remark
B)Recycling	Yes	One vermin composting unit is there in the college.
C)Reusing	No	--
D)Other ways	No	-- Municipality collects the wastage

Waste generated in the college?

E-waste		
Hazardous waste	Nil	
Solid waste	Yes	
Dry leaves	Yes	
Canteen waste	Nil	
Liquid waste	Yes	
Glass	Yes	
Unused Equipment	Yes	30 Systems
Napkins	Yes	
Others (specify)	Nil	

Do you use recycled paper in college?	NO
Any waste management methods used?	We are planning to construct vermicomposting pits in the college

Faunal diversity in college campus (with Photographic evidence)

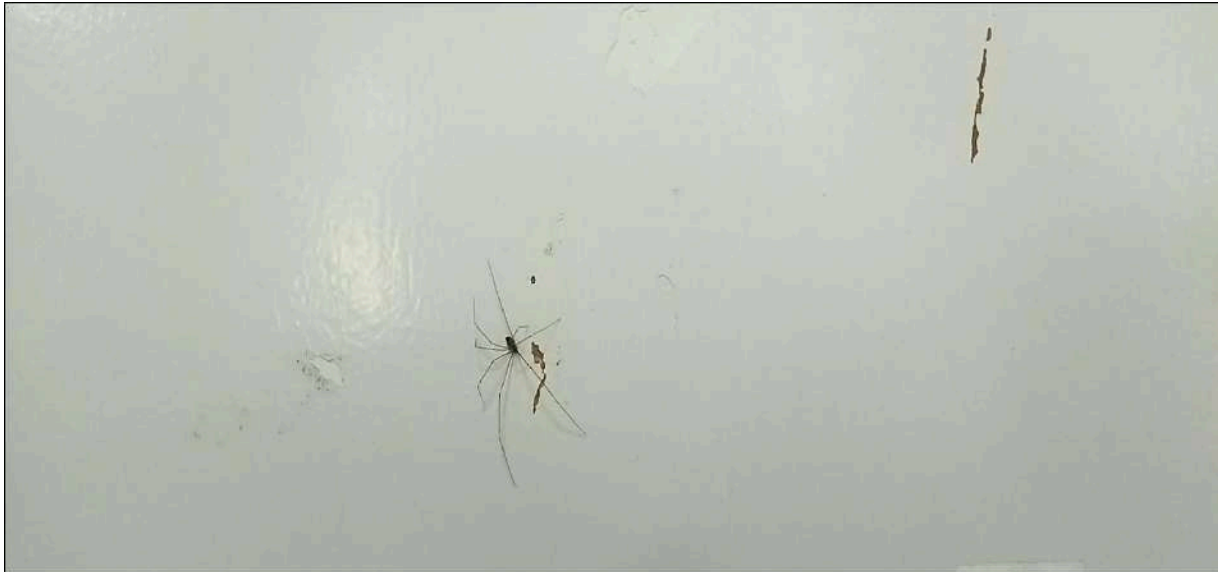
Faunal group	Scientific name	Number (If enumerat ion is done)	Seasona lity
Spiders	Araneae		
Moths & butterflies	Lepidoptera, Rhopalocera		
Other insects: (Dragon Flies, Bees, Wasps, Bugs, and Beetles etc..)	<i>Periplaneta Americana</i> (cockroach) <i>Grasshopper</i> <i>Mosquito</i> (<i>Culex</i> & <i>Anopheles</i> etc.)		
Annelids	<i>Lumbricus terrestris</i> . (Earthworm) <i>Hirudinea granuosa</i> (Leech)		
Other Arthropods	<i>Araneae</i> (Spider) <i>Formicidae</i> (Ant) <i>Apis indica</i> (Honey Bee) <i>Musca domestica</i> (Housefly)		
Amphibians	<i>Rana tigrina</i> (Frog)		
Reptiles	<i>Naja naja</i> (Cobra), <i>Bungarus caeruleus</i> (krait), <i>Ptyas mucosa</i> (Rat snake), <i>Crotalinae</i> (Rattle snake) <i>Hemidactylus flaviviridis</i> (Lizard) <i>Calotes versicolor</i> (Gecko)		
Birds	<i>Passer domesticus</i> (Sparrow) <i>Chiroptera</i> (Bat) <i>Psittaciformes</i> (parrot) <i>Columba livia</i> (Pigeon) <i>Eudynamys scolopaceus</i> (Koel)		
Mammals	<i>Rattus rattus</i> (Black rat) <i>Canis lupus familiaris</i> (Dog) <i>Felis catus</i> (Cat) <i>Oryctolagus cuniculus</i> (Rabbit)		
Any other (specify)			











Warangal - Eturnagaram Rd, Telangana 506343, India

Latitude 18.190540° Longitude 79.917456°

LOCAL 15:08:37 GMT 09:38:37 THURSDAY 10.28.2021 ALTITUDE 166 METER





**Air quality Determination:
Air Quality Index (parameters studied/recorded/ Seasonal):**

NO ₂	8 <u>ug/m³</u>
SO	18 <u>ug/m³</u>
O ₃	54 <u>ug/m³</u>
PM2.5	62 <u>ug/m³</u>
PM10	123 <u>ug/m³</u>
CO	238 <u>ug/m³</u>
Humidity	59%
Barometric Pressure	96Kpa
Wind Speed	8km/h
Wind Direction	North
Sun Rise	06:05am
Sun Set	05.47pm

Measurements of Noise level in and around the college

S.No	place (S)	Measurements (Duration in seconds)	Minimum (dBA)	Maximum (dBA)	Average (dBA)
1	Library	15	32	58	45
2	Canteen	----	----	----	----
3	Play ground	18	42	70	56
4	Auditorium	22	38	60	49
5	Science Block	16	31	55	43
	(i) Botony				
	(ii) Zoology	17	30	58	46
	(iii) Chemistry	14	36	58	41
	(iv) Physics	16	32	56	45
	(v) Computer Lab	15	30	54	42
6	Virtual Classroom	15	32	62	47

If any eco-friendly or restoration ac tivities conducted, please speci

GRADING FOR ENVIRONMENTAL AUDIT REPORT

S.NO	COMPONENTS FOR ASSESSMENT	MARKS	GRADES
1	Energy audit	20	A+ : 91-100
2	Waste audit	15	
3	Water audit	15	
4	Landscape or Environment audit	15	A : 81-90
5	Carbon footprint & Oxygen emission audit	15	
6	Green activities (conduction of seminars/conferences/workshops/student competitions/awareness programmes/observation of environmental related days etc.	10	B+ : 71-80
			B : 61-70
			C : 51 - 60
7	Student clubs (Environmental club/Green club/Nature club/Biodiversity club/ ECO Club/Friends and Fauna Club/Science club etc.) activity annual report	10	
	Total	100	

for Commissioner of Collegiate Education

SD/-
PRINCIPAL